



Armed Forces College of Medicine

AFCM



Diarrhea, Malabsorption and IBD

Prof. Mohamed Hassan Fouad, MD, MRCP(UK)
Associate Professor of Internal Medicine, ASU & AFCM



Indented Learning Outcomes (ILOs)



- By the end of this lecture the student will be able to:
 1. Define acute diarrhea and list its causes
 2. Define chronic diarrhea and list its causes
 3. Define malabsorption and list its causes
 4. Define IBD and differentiate between ulcerative colitis and Crohn's disease



Diarrhea Definition



- >3 motions per day
- >300 cc stool
- Too loose stool
- In absence of incontinence
- Chronic Diarrhea is considered in diarrhea
 >4 weeks



Other Definitions



- Dysentery
 - The passage of bloody stools.
- Organic diarrhoea:
 - with a known structural or biochemical explanation (ie, infection, inflammation, neoplasm)
- Functional Diarrhoea
 - Diarrhoea that is without a known underlying cause. (IBS, Constipation (overflow diarrhea), Anal sphincter dysfunction)



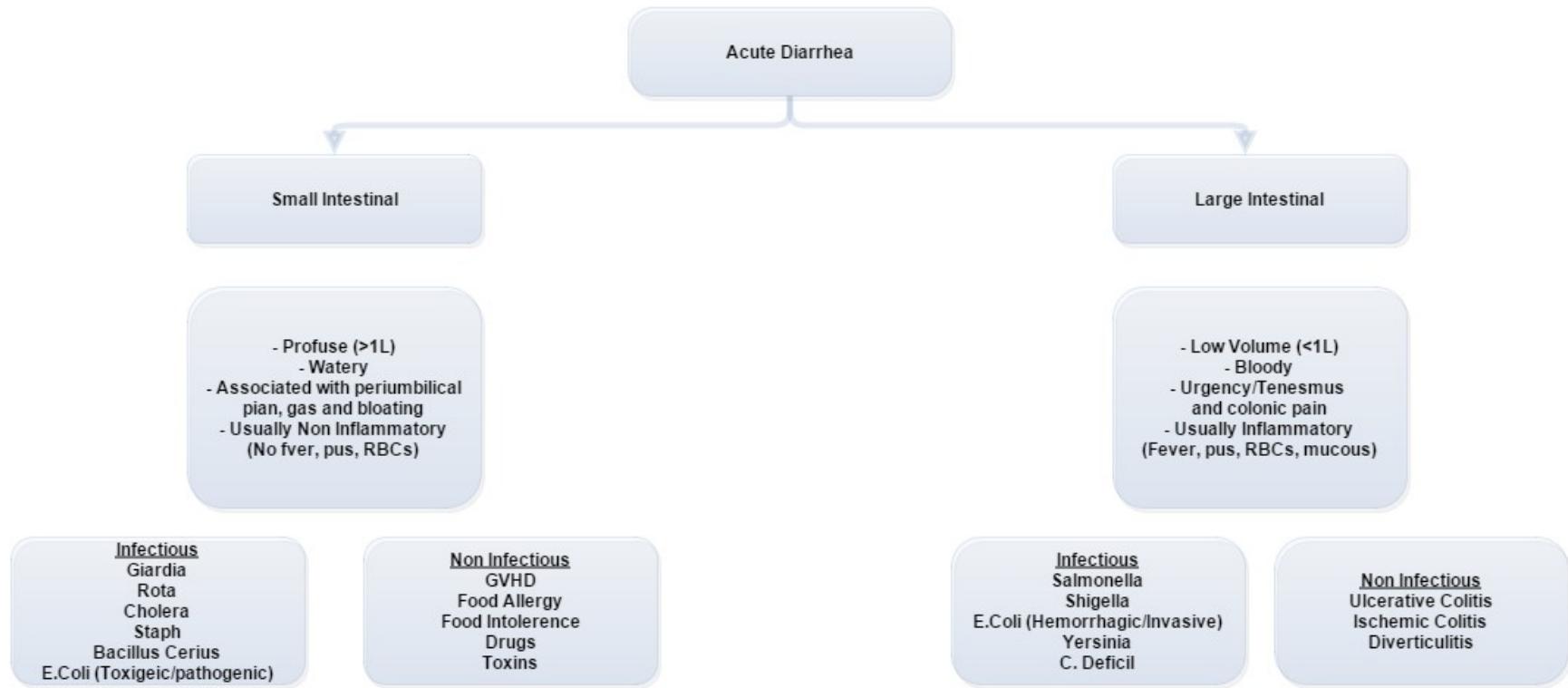
Prevalent Causes



Diagnosis	Prevalence
Functional diarrhea	45%
Infectious diarrhea	11%
Inflammatory bowel disease (IBD)	7%
Malabsorption	5%
Laxative use	4%
Medication-related (includes caffeine and alcohol)	4%
Postoperative diarrhea	2.5%
Malignancies	1%

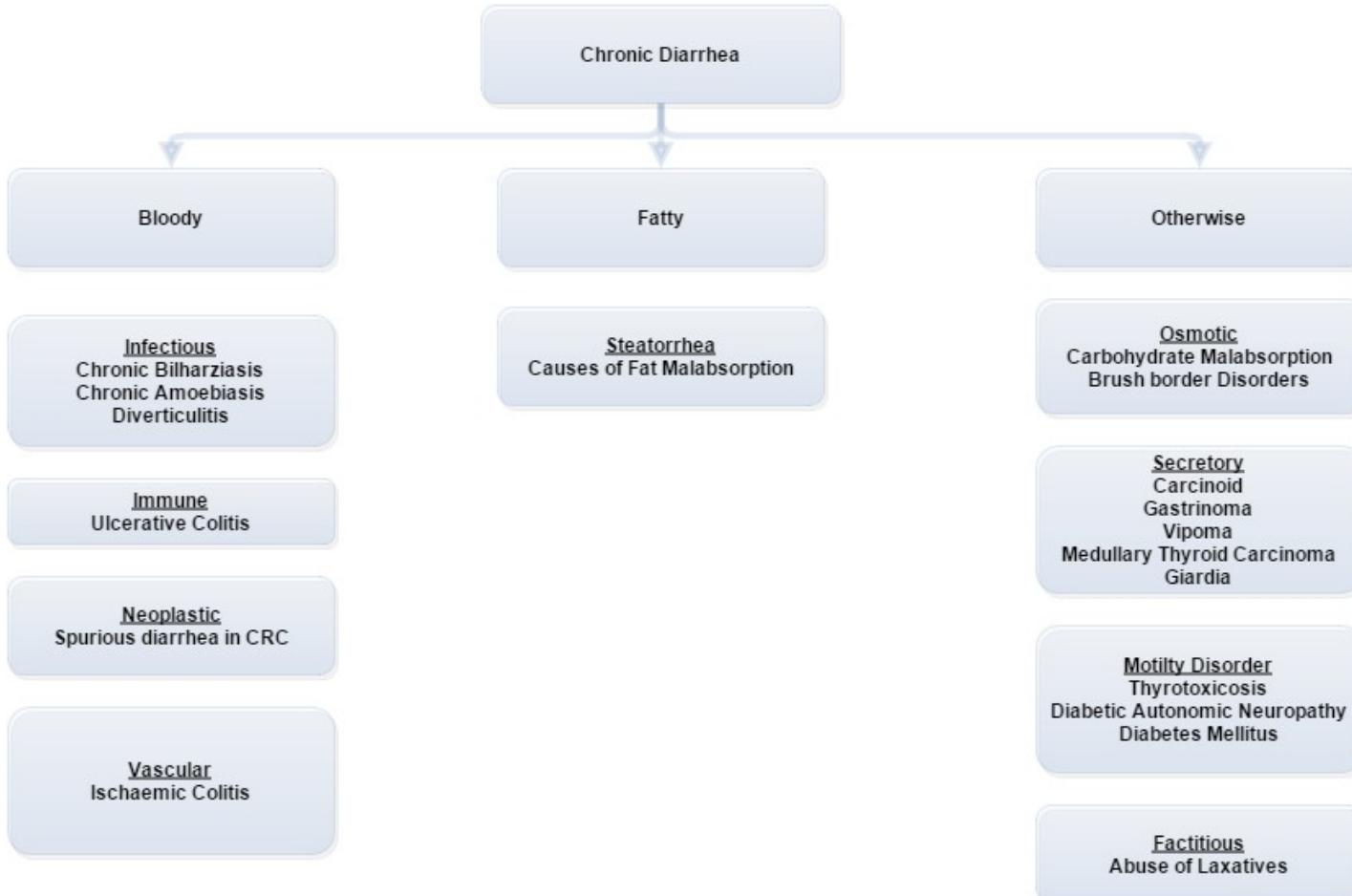


Causes of Acute Diarrhea





Causes of Chronic Diarrhea





Alarm symptoms



- Signs of volume depletion:

- Thirst
 - Fatigue
 - Dizziness

May warrant intravenous fluid resuscitation and/or hospitalization.

- Also look for alarm features in order to identify serious diagnoses:

- Fever
 - Bloody stools (dysentery)
 - Awakening from sleep
 - Family history
 - Age > 50 with change in symptoms
 - Immunosuppression drugs.



Investigations



- Stool cultures/microscopy
- Flexible sigmoidoscopy if inflammation suspected
- Biopsies for IBD (Crohn's disease and ulcerative colitis)
- C. difficile toxin: when recent antibiotic use, hospitalization, nursing home, or recent chemotherapy



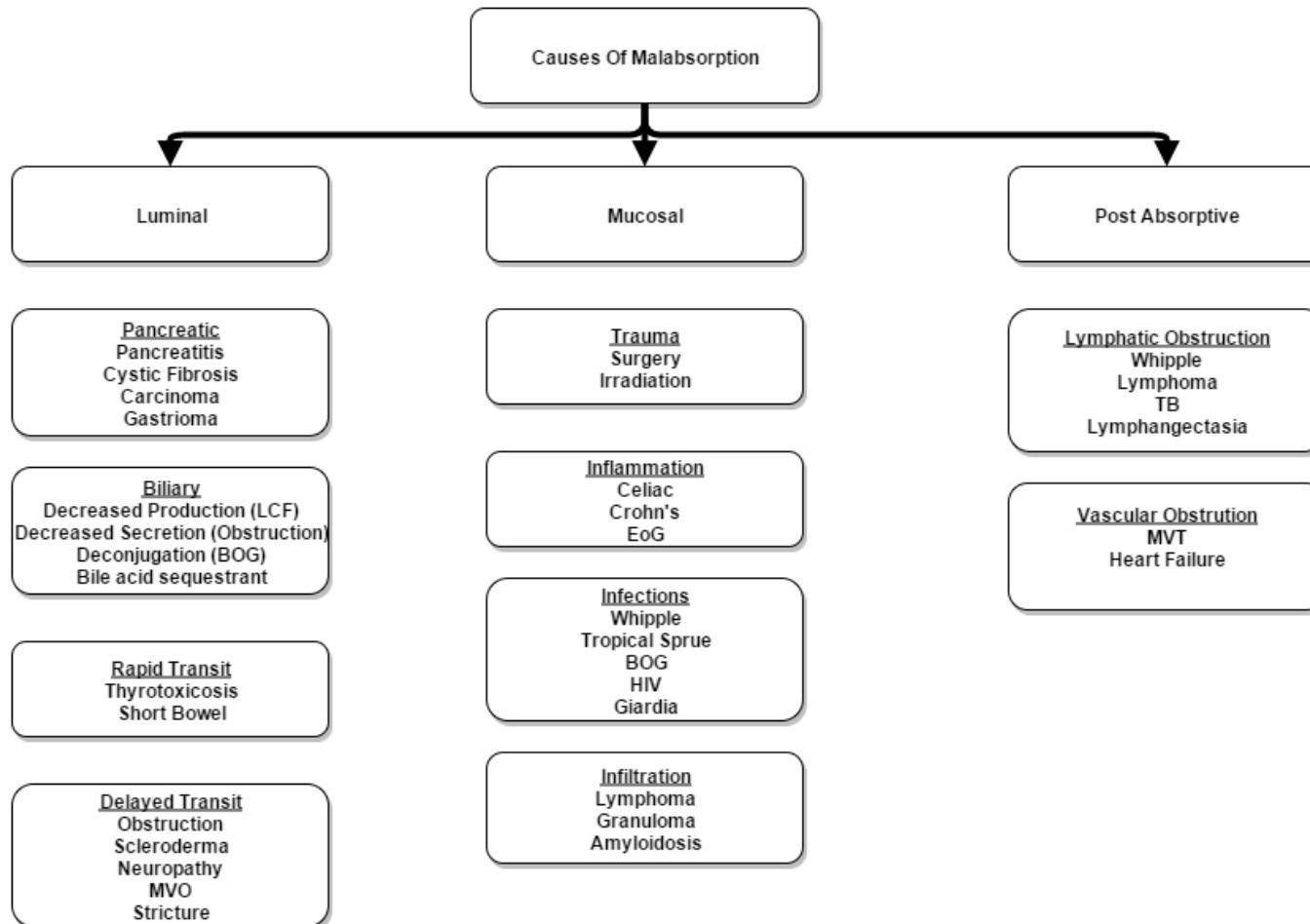
Management



- Treatment of the cause
- Fluid and electrolyte replacement
- Anti-diarrheal medications (If not infectious)
- Antibiotics: rarely indicated



Causes of Malabsorption





Investigations and Treatment



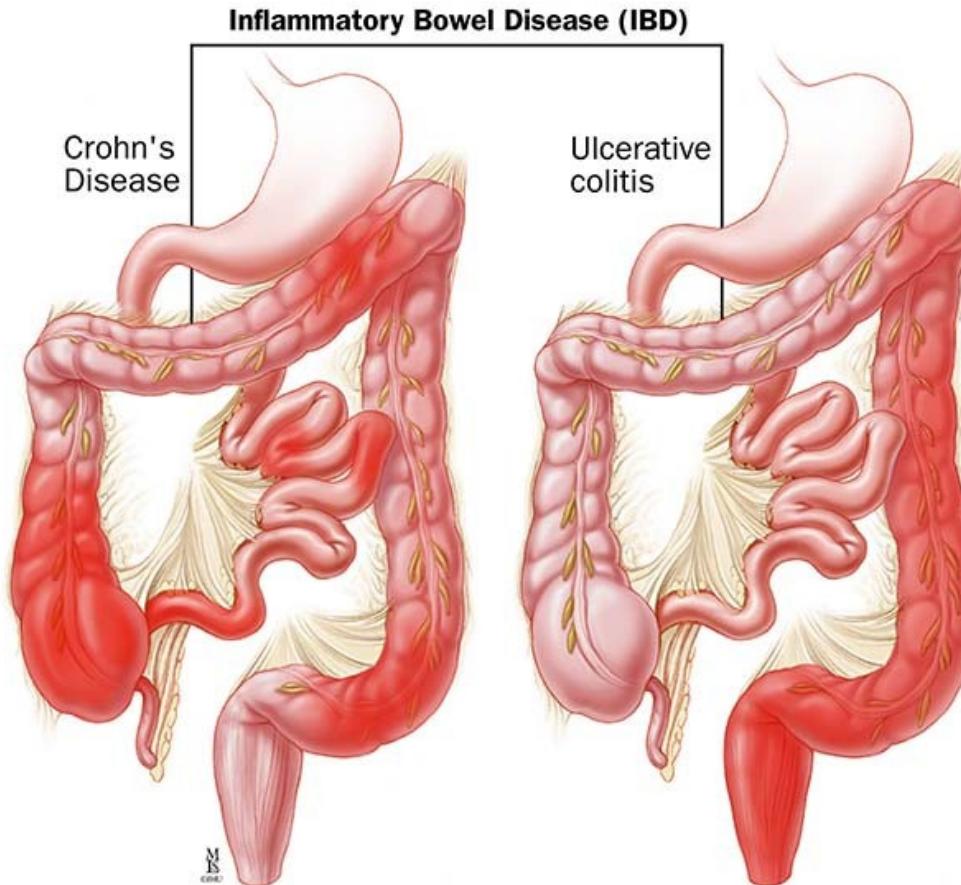
- Anti-TTG (Marker for celiac disease)
- 72 h stool collection (documents steatorrhea)
- Fecal elastase for pancreatic insufficiency
- Stool fat globules stained with Sudan
- Etiology (e.g. CT scan/MRI to visualize pancreas, upper endoscopy/colonoscopy for IBD)

Treatment

- Dependent on underlying etiology



Inflammatory Bowel Disease





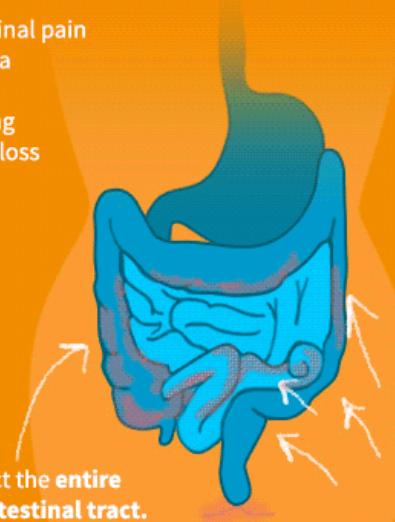
Symptoms



Crohn's Disease vs. Ulcerative Colitis

Crohn's Disease Symptoms

- Abdominal pain
- Diarrhea
- Nausea
- Vomiting
- Weight loss



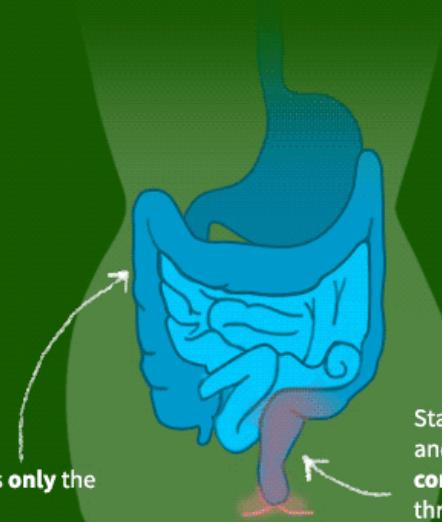
Can affect the entire gastrointestinal tract.

Has a **discontinuous** pattern throughout the gastrointestinal tract.

Ulcerative Colitis Symptoms

Ulcerative Colitis Symptoms

- Abdominal pain
- Rectal bleeding
- Bloody diarrhea



Affects **only** the colon.

Starts at the rectum and progresses **continuously** through the colon.

Why it's important to know the differences



Each has **different medications** that are effective.



Each has **different surgical treatment options**.



New **treatment options** are in development for both diseases.



Comparison



COMPARISON OF CROHN DISEASE VERSUS ULCERATIVE COLITIS

	CROHN DISEASE	ULCERATIVE COLITIS
Site of origin	Terminal ileum	Rectum
Pattern of progression	"Skip" lesions/irregular	Proximally contiguous
Thickness of inflammation	Transmural	Submucosa or mucosa
Symptoms	Crampy abdominal pain	Bloody diarrhea
Complications	Fistulas, abscess, obstruction	Hemorrhage, toxic megacolon
Radiographic findings	String sign on barium X-ray	Lead pipe colon on barium X-ray
Risk of colon cancer	Slight increase	Marked increase
Surgery	For complications such as stricture	Curative



Radiology

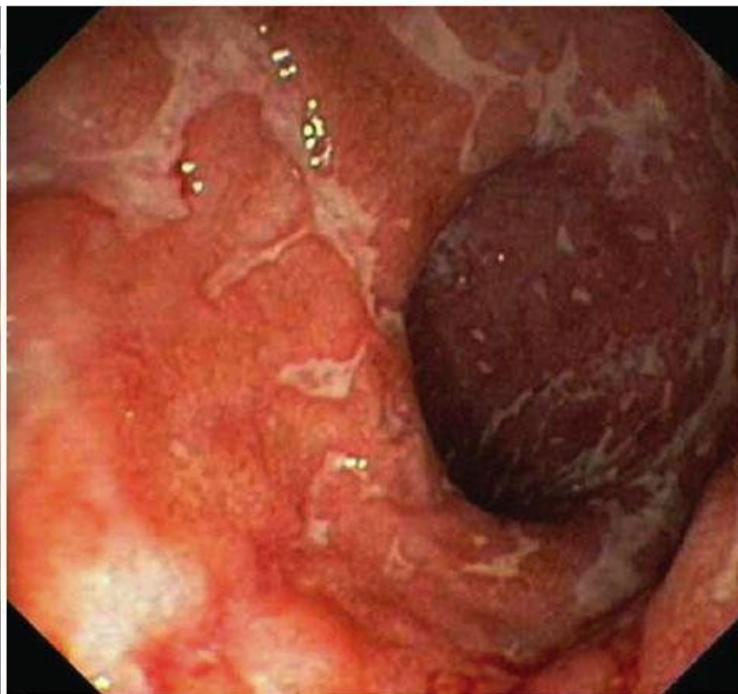
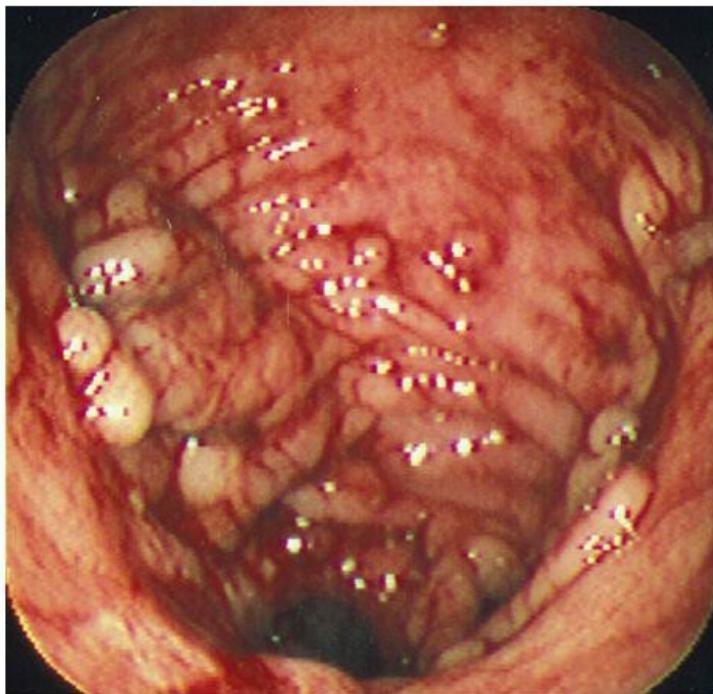




Endoscopy



- In Crohn's, the mucosa has a "cobblestone" appearance due to deep fissuring in the inflamed mucosal tissue
- In UC, the colon appears inflamed and reddened, and ulcers are visible

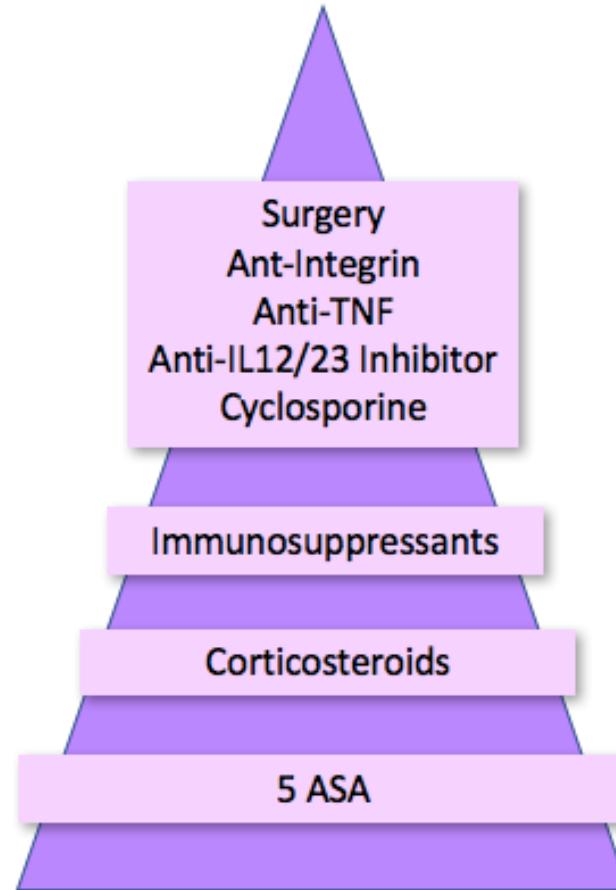


© Thomson - Wadsworth

© Thomson - Wadsworth



IBD Treatment





Celiac Disease



Approximately 3 million people in the United States have it.



83% undiagnosed



Known trigger
GLUTEN



AUTOIMMUNE DISEASE



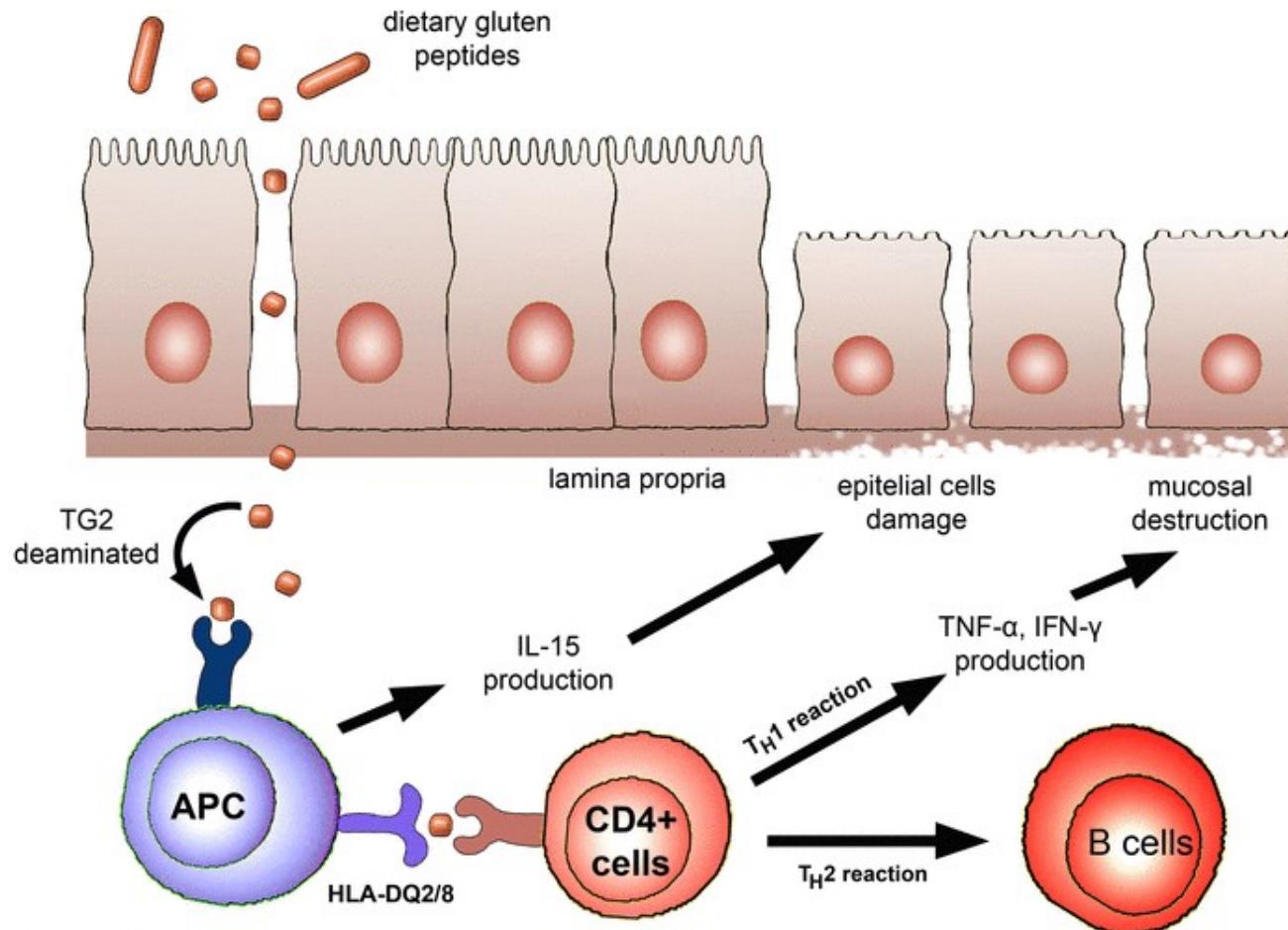
At risk for other serious health consequences such as osteoporosis, anemia, thyroid disease and even certain cancers.



Known treatment
Strict gluten free diet

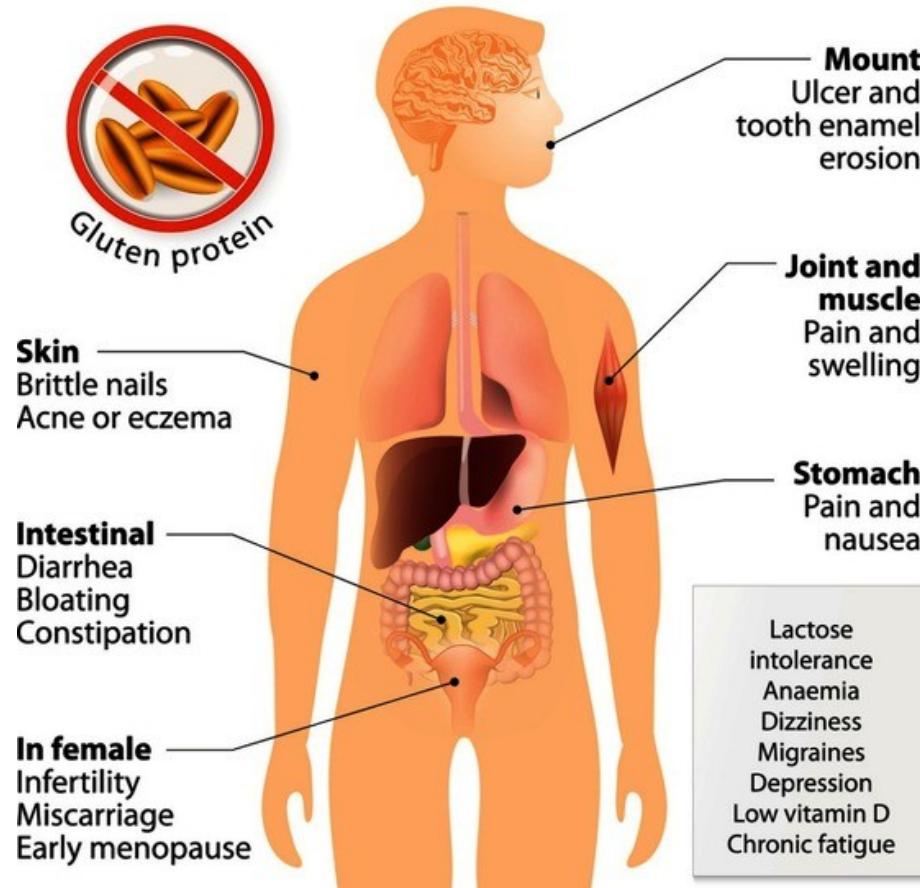


Pathogenesis





Symptoms





Investigations



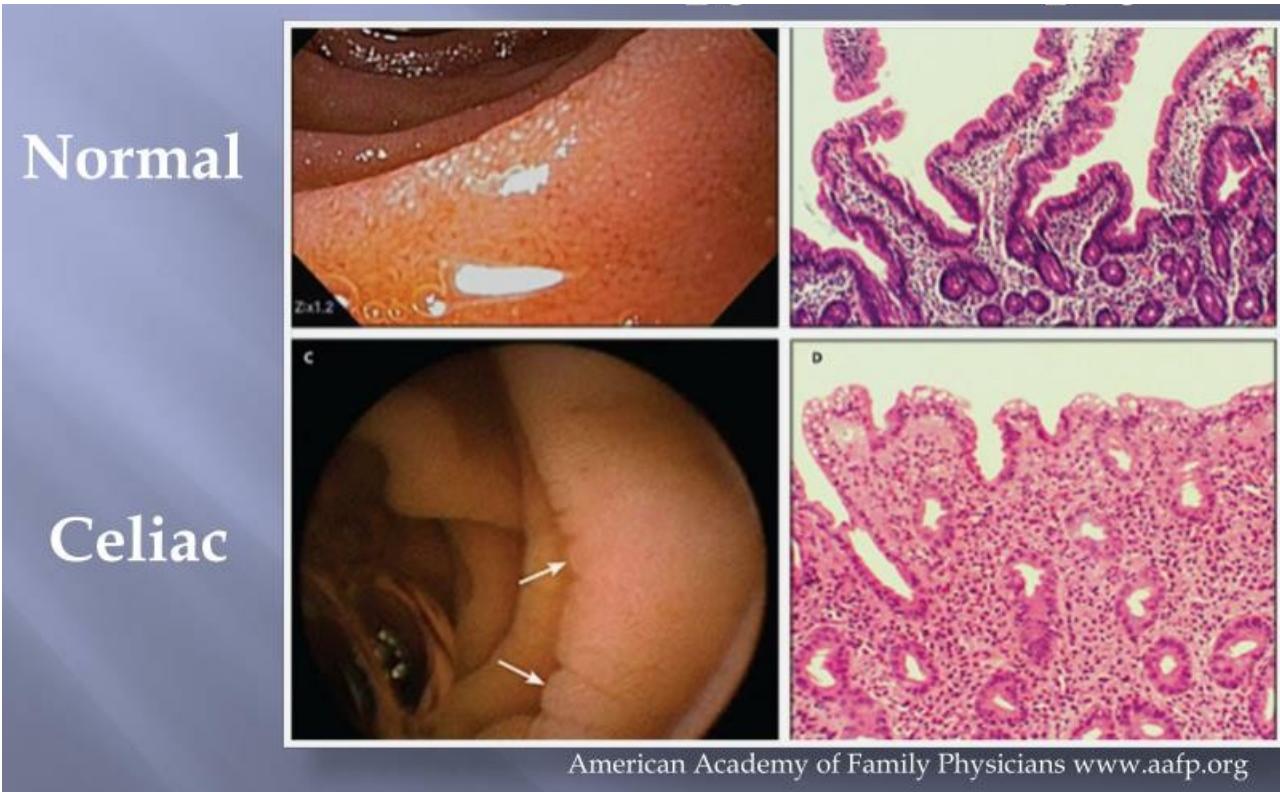
- Anti Tissue Transglutaminase Antibodies
- Anti Endomyseal Antibodies
- Anti Gliadin Antibodies
- CBC: Anemia
- Endoscopy



Diagnosis



Upper Endoscopy: Scalloping of the duodenal mucosa.
Biopsy: Partial villous atrophy in the duodenum.





Treatment



- Gluten Free Diet



References

- Andreoli and Carpenter's Cecil Essentials of Medicine (8th edition)
- Toronto Notes 2017



Thank You